

Appl. No. 09/059,644

In the Claims

Claims 1-49. (Cancelled).

50. (Currently amended) A semiconductor processing method of forming a conductive transistor gate over a substrate comprising:

forming a dielectric layer on a substrate;

forming a conductive gate structure over the dielectric layer, the gate structure comprising comprising:

a polysilicon material layer;

a conductive reaction barrier layer over the polysilicon material layer;

a metal layer over the conductive reaction barrier layer; and

an insulative cap cap. and the gate structure having sidewalls defining a lateral dimension of the gate structure, the sidewalls comprising a polysilicon material surface and a metal-comprising surface;

forming a non-oxide material over the gate structure and the dielectric layer, the non-oxide material being formed directly against the sidewalls along the entirety of the polysilicon material surface to form a non-exposed polysilicon material surface and along the entirety of the metal-comprising surface to form a non-exposed metal-comprising surface ;

anisotropically etching the non-oxide material to form spacers on the sidewalls, the spacers laterally adjacent the gate structure and joining with the gate dielectric layer, the gate dielectric layer extending laterally outward from the gate structure and spacers; and

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exposing while the spacers are on the sidewalls and joining with the gate dielectric layer, subjecting the substrate to oxidizing conditions effective to oxidize only that portion of the gate structure adjacent the spacers and the dielectric layer, the spacers protecting the metal-comprising surface and at least a first portion of the non-exposed polysilicon material surface from oxidation during the subjecting exposing, a second portion of the non-exposed polysilicon material surface being oxidized during the subjecting.

51. (Previously presented) The method of claim 50, wherein the forming of the non-oxide material and the anisotropically etching thereof comprises:

depositing a first non-oxide material over the gate structure, the first non-oxide material having a thickness of from about 50 Angstroms to about 500 Angstroms;

anisotropically etching the first non-oxide material to a degree sufficient to leave first spacers over the gate structure sidewalls;

depositing a second non-oxide material over the first spacers; and

anisotropically etching the second non-oxide material to a degree sufficient to leave second spacers over the first spacers.

Claims 52-70 (Cancelled).

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71. (Previously presented) The method of claim 50 further comprising:
after anisotropically etching the non-oxide material to form spacers, depositing a layer of nitride material having a thickness of about 500 Angstroms over the spacers; and
anisotropically etching the layer of nitride material prior to the exposing, the spacers and the anisotropically etched nitride material together forming an oxidation barrier.

72. (Previously presented) The method of claim 50 further comprising:
after the exposing, depositing a layer of nitride material over the spacers; and
anisotropically etching the nitride material.

73. (Previously presented) The method of claim 50 further comprising:
prior to anisotropically etching the non-oxide material, depositing a layer of nitride material over the non-oxide material; and
wherein the anisotropically etching comprises etching both the nitride material and the non-oxide material.

74. (Previously presented) The method of claim 73 wherein at least a portion of the non-oxide material has a thickness of about 100 Angstroms after the anisotropically etching.

75. (Previously presented) The method of claim 50 wherein the metal-comprising surface contains at least one of W, Mo, TiN and WN.